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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,082	03/08/2004	Shigetaka Kinme	04970/0200979-US0	8676

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EXAMINER	
GARCIA, ERNESTO	

ART UNIT	PAPER NUMBER
3679	

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05/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/800,082	KINME ET AL.	
	Examiner	Art Unit	
	ERNESTO GARCIA	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 September 2007 and 09 August 2007*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9 and 11* is/are rejected.

7)☒ Claim(s) *10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/11/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

Claim 1 is objected to because of the following informalities:

regarding claim 1, the comma in line 4 should be --and-- and the comma in line 5 should be a semicolon. Appropriate correction is required. For purposes of examining the instant invention, the examiner has assumed these corrections have been made.

Claim Rejections - 35 USC § 103

Claims 1-6, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minamoto, JP-2001-99178, in view of Ikeda, JP8-338440.

Regarding claim 1, Minamoto discloses, in Figures 1 and 2, a coupling structure comprising a shaft body **1**, a shaft joint **2**, and a coupling shaft **22**. The shaft body **1** has a slip-off preventing groove **A1** (see marked-up attachment) close to an end portion thereof. The shaft joint **2** has an engagement groove **9a** and bores **23** facing the engaging groove **9a**. The shaft body **1** is engaged with the engagement groove **9a**. A

flexible member **14** projects in a depth direction **A2** of the engagement groove **9a** and extends externally from the engagement groove **9a** along a longitudinal direction of the shaft joint (note that the flexible member projects from the groove and along both the depth and longitudinal direction of the groove). The coupling shaft **17** is inserted into the bores **15,16** and the slip-off preventing groove **A1**. The flexible member is configured to be deflected in a width direction of the engagement groove. However, Minamoto fails to disclose the shaft body having a positioning recess close to an end portion thereof and the flexible member engaging an engagement face in the positioning recess such that the flexible member regulates movement of the shaft body in the longitudinal direction of the engagement groove.

Ikeda teaches, in Figure 10 and 20, a shaft body having a positioning recess close to an end portion thereof and a flexible member engaging an engaging face in the positioning recess to prevent the shaft from moving (note that the recess is created due to the tapered surface 47 or 31). Therefore, as taught by Ikeda, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a recess close to an end portion thereof to allow the flexible member of Minamoto to engage the recess thus prevent the shaft from moving. Given the modification, the flexible member would have engages the engaging face, the tapered surface, in the positioning recess and the flexible member would have regulated movement of the shaft body in the longitudinal direction of the engagement groove.

Regarding claim 2, given the modification, the flexible member would have a deflection regulating portion being substantially planar and includes a planar surface facing a side face of the engagement groove **9a**.

Regarding claim 3, given the modification, a tip (the bent portion) of the flexible member **14** is bent outward in a width direction of the engagement groove **9a**.

Regarding claims 4 and 5, Minamoto, as modified, fails to disclose the flexible member **14** provided more inwardly than another side face of the engagement groove **9a**. Applicant is reminded that a change in size is generally recognized as being within the level of ordinary skill in the art. Therefore, it would have been an obvious matter of design choice to make the recess deeper than the groove since such a modification would have involved a mere change in the size of a component. *In re Rose*, 105 USPQ 237 (CCPA 1955). Given that the recess would have been made deeper, the flexible member would have been made longer thus the flexible member would have been provided more inwardly than another side face of the engagement groove **9a**.

Regarding claim 6, Minamoto, as modified, discloses the shaft body **1** includes a top face and a side face. The top face is adjacent the coupling shaft **22**. The positioning recess (created by the taper) would have been disposed in the side face.

Regarding claim 9, Minamoto discloses, in Figures 1 and 2, a coupling structure comprising a shaft body **1**, a shaft joint **2**, and a coupling shaft **22**. The shaft body **1** has an engagement portion. The shaft joint **2** has an engagement groove **9a** and bores **23** facing the engaging groove **9a**. The shaft body **1** is engaged with the engagement groove **9a**. A flexible member **14** projects in a depth direction **A2** of the engagement groove **9a** and extends externally from the engagement groove **9a** along a longitudinal direction of the shaft joint (note that the flexible member projects from the groove and along both the depth and longitudinal direction of the groove). The coupling shaft **17** is inserted into the bores **15,16**. The flexible member is configured to be deflected in a width direction of the engagement groove. However, Minamoto fails to disclose the shaft body having a positioning recess close to an end portion thereof and the flexible member engaging an engagement face in the positioning recess such that the flexible member regulates movement of the shaft body in the longitudinal direction of the engagement groove.

Ikeda teaches, in Figure 10 and 20, a shaft body having a positioning recess close to an end portion thereof and a flexible member engaging an engaging face in the positioning recess to prevent the shaft from moving (note that the recess is created due to the tapered surface 47 or 31). Therefore, as taught by Ikeda, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a recess close to an end portion thereof to allow the flexible member of Minamoto to engage the recess thus prevent the shaft from moving. Given the modification, the

flexible member would have engages the engaging face, the tapered surface, in the positioning recess and the flexible member would have regulated movement of the shaft body in the longitudinal direction of the engagement groove.

Regarding claim 11, given the modification, the positioning recess and the flexible member would have been configured such that, when the flexible member has been disengaged from the positioning member and the shaft body has been withdrawn from the engagement groove, the flexible member is released and extends to prevent the shaft body from being reinserted into the engagement groove along the depth direction unless the flexible member is aligned with the positioning recess. Applicants should note that this claim does not set forth any structural features.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minamoto, JP-2001-99178, in view of Ikeda, JP8-338440, and further in view of Aota et al., 6,474,898.

Regarding claim 7, Minamoto discloses, in Figures 1 and 2, a coupling structure comprising a shaft body **1**, a shaft joint **2**, and a coupling shaft **22**. The shaft joint **2** has an engagement groove **9a**, bores **23** facing the engaging groove **9a**. The shaft body **1** is engaged with the engagement groove **9a**. A flexible member **14** projects in a depth direction **A2** of the engagement groove **9a** and extends externally from the engagement groove **9a** along a longitudinal direction of the shaft joint (note that the flexible member

projects from the groove and along both the depth and longitudinal direction of the groove). The coupling shaft **17** is inserted into the bores **15,16** and couples the shaft body and the shaft joint **2**. A groove **A1** is near an end portion of the shaft body **1** and contains the coupling shaft **22**. The flexible member is configured to be deflected in a width direction of the engagement groove. However, Minamoto fails to disclose the shaft body having a positioning recess close to an end portion thereof; the flexible member engaging an engagement face in the positioning recess such that the flexible member regulates movement of the shaft body in the longitudinal direction of the engagement groove; and the groove **A1** being semi-circular.

Ikeda teaches, in Figure 10 and 20, a shaft body having a positioning recess close to an end portion thereof and a flexible member engaging an engaging face in the positioning recess to prevent the shaft from moving (note that the recess is created due to the tapered surface 47 or 31). Therefore, as taught by Ikeda, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a recess close to an end portion thereof to allow the flexible member of Minamoto to engage the recess thus prevent the shaft from moving. Given the modification, the flexible member would have engages the engaging face, the tapered surface, in the positioning recess and the flexible member would have regulated movement of the shaft body in the longitudinal direction of the engagement groove.

Aota et al. teach, in Figure 7, as prior art, a semi-circular groove, near an end portion of a shaft body 71 to allow a coupling shaft, i.e., the shaft, to engage the shaft body and thus preventing the shaft body from being disengaged from a shaft joint. Therefore, as taught by Aota et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the groove provided in Minamoto with that of Aota et al. to equally couple the shaft body to the shaft joint.

Allowable Subject Matter

Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

regarding claim 10, the prior art of record does not disclose or suggest a coupling structure comprising a tip portion of a flexible member extending externally from an engagement groove along a longitudinal direction of an engagement groove. The closest prior art, Minamoto, JP2001-99178, shows the tip extending into the engagement groove. Kinme et al., 2004/0091308, shows a tip accordingly, however, Kinme et al. fail to disclose the flexible member engaging an engagement face in the positioning recess (claim 1, line 8) and the flexible member extending externally from

the engagement groove (claim 1, line 7). There's not motivation to change Kinme et al. since the flexible member is outside of the groove. Koenig, DE-3839325, teaches a tip portion that extends externally from the engagement groove along a transverse direction of the engagement groove.

Response to Arguments

Applicants' arguments with respect to claims 1-7 and 9-11 have been considered but are moot in view of the new grounds of rejection.

Conclusion

Applicants' amendment necessitated the new grounds of rejection presented in this Office action. In particular, the new limitation "engages an engagement face in the positioning recess" in claims 1 and 7, line 8, and claim 9, lines 10-11 Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 571-272-7083. The examiner can normally be reached from 9:30AM-6:00PM. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached at 571-272-7087.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

/E. G./

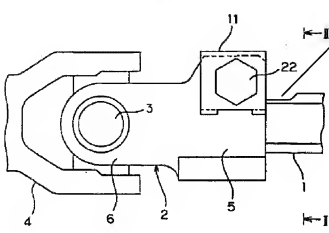
Examiner, Art Unit 3679

May 30, 2008
Attachment : one marked-up page of Minamoto, JP2001-99178

/Daniel P. Stodola/
Supervisory Patent Examiner, Art Unit 3679

Minamoto, JP2001-99178

【図１】



【図２】